

ABSTRACT OF THE DISCLOSURE

An optical medium has a graded effective refractive index with a high maximum refractive index change. The medium is formed using alternating layers of two or more materials having significantly different refractive indices. The thickness of the layers of at least one of the materials is substantially less than the effective light wavelength of interest. The effective index of refraction in a local region within the medium depends on the ratio of the average volumes of the two materials in the local region. A graded index of refraction is provided by varying the relative thicknesses of the two materials.